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**Semester 1\_Activity 3: Report on training and knowledge needs for Andalucia**

**OD4GROWTH Project**

***8th february, 2024***

***Granada, SPAIN***

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| **Methodology followed** | A hybrid dynamic was developed based on the analysis form provided by the task's responsible partner, facilitating engagement for both in-person and online attendees through the MIRO tool. This approach was chosen due to previous experiences with low response rates to online surveys and the perception that such surveys would not sufficiently delve into training needs. Consequently, it was proposed to elevate the regional results to the upcoming project partners' meetings, where the themes and structure of the courses will be decided. Additionally, the questionnaire will be used to define the specific training needs of each attendee for future training in Andalusia.  The activity was structured into following sections, each focusing on a specific aspect of data management and utilization:   * **People and Culture - Open Data:** This section explores the understanding of open data importance and potential within organizations, assesses the current level of knowledge and skills among personnel regarding open data management, and examines the commitment of senior management to promote the availability and quality of open data. * **Data Activities - Open Data:** Here, we delve into how open data are currently collected, processed, and published within organizations, identify challenges related to the availability and quality of open data, and discuss ongoing efforts to improve the quality and quantity of open data. * **Business Process - Open Data:** This section focuses on the utilization of open data to enhance processes and public services, examines the existence of established processes for ensuring the updating and reliability of open data, and evaluates the impact of open data quality on the provision of public services. * **Technology - Open Data:** Lastly, we explore the technologies currently employed for managing and publishing open data, discuss opportunities for enhancing tools and technological platforms to facilitate access and use of open data, and examine measures being taken to ensure interoperability and standardization of open data within organizations.   For each section, the following questions were utilized as a starting point of discussion to understand not just the current situation but also to identify training needs:  **People and Culture - Open Data:**   1. **How is the importance and potential of open data understood within the organization?** This question aimed to gauge the level of awareness and recognition of the significance of open data among personnel, from frontline staff to senior management. Responses helped identify gaps in understanding and areas where education and training are needed to promote a culture of open data utilization. 2. **What is the level of knowledge and skills of personnel regarding the management and use of open data?** By exploring the existing knowledge and skills of personnel, this question shed light on areas where training **interventions** are required to enhance competencies related to open data management, analysis, and utilization. 3. **Is there a commitment from senior management to promote the availability and quality of open data?** Understanding the level of commitment from senior management provided insights into organizational priorities and support structures for open data initiatives. It helped identify the need for leadership training and advocacy to drive forward open data agendas.   **Data Activities - Open Data:**   1. **How are open data currently collected, processed, and published within the organization?** This question aimed to uncover the existing processes and workflows involved in handling open data. Identifying the strengths and weaknesses of current practices helped pinpoint areas where training and process improvement initiatives are needed. 2. **What challenges does the organization face in terms of the availability and quality of open data?** Exploring challenges related to data collection, quality assurance, and publication highlighted areas where capacity-building efforts can address gaps and improve data practices. 3. **Are efforts being made to improve the quality and quantity of open data?** Assessing ongoing efforts to enhance open data quality and quantity provided insights into organizational priorities and initiatives. It helped identify training needs related to data governance, data quality management, and data publication strategies.   **Business Process - Open Data:**   1. **How are open data used to improve processes and public services?** Understanding the utilization of open data in business processes and service delivery helped identify training needs related to data analysis, data-driven decision-making, and the integration of open data into operational workflows. 2. **Are established processes in place to ensure the updating and reliability of open data?** Assessing the existence of processes for data maintenance and quality assurance highlighted areas where training interventions are needed to establish robust data management practices. 3. **How is the impact of the quality of open data evaluated in the provision of public services?** Exploring mechanisms for evaluating the impact of open data quality on service delivery provided insights into areas where training is needed to develop performance metrics, data analytics capabilities, and outcome evaluation methodologies.   **Technology - Open Data:**   1. **What technologies are currently used for the management and publication of open data?** This question aimed to identify the technological infrastructure supporting open data initiatives. Understanding the existing tools and platforms helped pinpoint areas where training is needed to enhance technical competencies and leverage advanced data management technologies. 2. **How can tools and technological platforms be improved to facilitate access and use of open data?** Exploring opportunities for enhancing technological solutions provided insights into areas where training and innovation initiatives are needed to optimize data access, usability, and interoperability. 3. **What measures are being taken to ensure the interoperability and standardization of open data within the organization?** Assessing efforts to promote data interoperability and standardization highlighted areas where training is needed to develop skills in data integration, metadata management, and adherence to open data standards and best practices. |
| **List of actors filling in the assessment survey** | The attendees at the workshop include political and technical representatives from the Information and Communication Technology (ICT) departments of the Andalusian provincial councils. Additionally, there is a representative from the co-decision committee of S4 Andalusia, likely involved in decision-making related to regional development strategy. Also present are representatives of identified best practices, namely the Data Office of Montilla City Council, the Institute of Statistics and Cartography of Andalusia (IECA), and the Smart Tourism Office of Seville City Council. |
| **Analysis of the actors involved (legal status, mission, etc)** | For the Andalusian provincial councils, both the political and technical representatives from the ICT departments bear the responsibility of efficiently managing digital resources to enhance governance and public services within their respective provinces. Their mission revolves around implementing digital strategies that promote transparency, efficiency, and citizen engagement, all in accordance with regional and national legal regulations and standards for open data. Their interest in receiving their feedback regarding training needs for fostering open data stems from the pursuit of skills and knowledge that enable them to fully harness the potential of open data for improving decision-making and public service delivery.  The representative from the co-decision committee of S4 Andalusia plays a pivotal role in formulating and executing regional development strategies. S4's mission is to drive innovation, competitiveness, and sustainable development in Andalusia. Within this context, the interest in her feedback regarding training needs for promoting open data revolves around ensuring that S4's policies and actions are backed by a solid understanding of best practices in open data usage for regional development. Moreover, adequate training in this realm can strengthen the capacity of regional actors to seize the opportunities presented by open data in terms of innovation and competitiveness.  Lastly, the representatives of the identified best practices, such as the Data Office of Montilla City Council, the Institute of Statistics and Cartography of Andalusia (IECA), and the Smart Tourism Office of Seville City Council, have direct experience in successfully implementing initiatives related to open data and technology. The interest in their feedback regarding training needs is focused on sharing their knowledge and experiences to assist other actors in overcoming similar challenges and fully leveraging the potential of open data in their own municipal and sectoral contexts. |
| **Number of assessment questionnaires collected** | 26 persons were engaged in this hybrid dynamic. |
| **Main outcomes concerning People and culture** | During the discussion on the importance and potential of open data within the organization, several key points emerged, reflecting both strengths and areas for improvement:   * **Lack of uniform understanding:** Participants highlighted a lack of uniform understanding across the organization regarding the importance and potential of open data. This discrepancy in comprehension can hinder the organization's ability to leverage open data effectively. * **Governance challenges:** Governance issues were identified as a significant concern, with participants noting challenges in establishing clear roles and responsibilities for open data management. Without robust governance frameworks, there is a risk of inefficiency and inconsistency in data management practices. * **Size-dependent solutions:** The diverse nature of organizations represented led to discussions about the need for tailored solutions based on the size and specific requirements of each entity. What works for larger organizations may not be suitable for smaller ones, emphasizing the importance of flexibility in approach. * **Practical approach:** There was consensus among participants regarding the importance of adopting a practical approach to open data management. Rather than focusing solely on theoretical concepts, there was a call for real-world case studies and practical examples to demonstrate the tangible benefits of open data. * **Role of IT Department:** Participants acknowledged the pivotal role of the IT department in driving open data initiatives. However, there was also recognition of the need for cross-departmental collaboration to ensure that open data efforts align with broader organizational goals. |
| **Main outcomes concerning Data activities** | During the discussion on improving the quantity and quality of open data activities within the organization, several key challenges and initiatives were highlighted:   * **Inventory and cataloging:** Participants emphasized the need to establish a formal process for inventorying and cataloging information assets, including identifying datasets suitable for opening. Clear criteria for selection should be established to ensure transparency and relevance. * **Standardization of terminology:** There was a consensus on the importance of developing standardized vocabularies and taxonomies to enhance the understanding and usability of open data. Common terminology facilitates communication and collaboration among stakeholders. * **Adoption of open formats and APIs:** It was recognized that selecting open formats and utilizing APIs for data publication are critical steps in promoting accessibility and transparency. Implementing these standards ensures ease of access and interoperability with external systems. * **Tools and technologies:** Participants highlighted the need for implementing tools and technologies to streamline the collection and processing of open data. Database management systems and data cleaning software were suggested to ensure data quality and integrity. * **Collaboration and coordination:** Cross-departmental collaboration was identified as essential for ensuring consistency and efficiency in open data management. Establishing mechanisms for collaboration and coordination fosters a unified approach to data activities. * **Audits and evaluations:** Regular audits and evaluations of open data processes were proposed to identify areas for improvement and ensure compliance with standards and best practices. Continuous monitoring helps maintain data quality and relevance over time. |
| **Main outcomes concerning Business Process** | During the discussion on utilizing open data to improve processes and public services, as well as ensuring the reliability and updating of open data, several key points and challenges emerged:   * **Utilization of Open Data:** Participants recognized the potential of open data in various sectors such as emergency services, social services, tourism, urban planning, education, and healthcare. Examples included improving emergency response, addressing social needs, enhancing tourist experiences, aiding urban planning decisions, promoting educational transparency, and facilitating healthcare research. * **Establishment of processes:** Challenges in ensuring the reliability and updating of open data were identified, including resource constraints, lack of dedicated personnel, and competition with other priorities. Participants emphasized the need for formal processes to inventory and catalog information assets, develop standardized terminologies, select open formats, and utilize APIs for data publication. * **Evaluation of impact:** Concerns were raised about the lack of evaluation regarding the impact of data quality on public services. Participants noted the absence of KPIs beyond basic execution indicators and the difficulty in defining clear objectives beyond transparency and publicity. It was highlighted that a robust evaluation framework considering both quantitative and qualitative aspects is essential to measure how data quality influences decision-making and service quality. |
| **Main outcomes concerning Technology** | In the exploration of technology capabilities related to open data management and publication, the following insights and proposals have been synthesized:  The absence of specific responses regarding the technologies used for open data management and publication underscores a broader perception that technology itself is not the primary focus. Instead, the emphasis lies on the need for tools facilitating data visualization and analysis for effective decision-making. While no particular technologies were mentioned, there's a clear interest in leveraging technological solutions for efficient open data management and publication.  To enhance tools and platforms for facilitating access and utilization of open data, several key strategies are proposed:   * **Implementing intuitive user interfaces:** Develop user interfaces that are intuitive and user-friendly, catering to a wide range of users, including those with limited technical skills. * **Integrating advanced search and filtering features:** Incorporate advanced search functionalities and customizable filters to enable users to swiftly locate relevant datasets tailored to their specific needs. * **Offering dynamic data visualization options:** Provide dynamic and customizable data visualization options, including interactive graphics, geospatial maps, and analytical tools, to facilitate data comprehension and analysis. * **Ensuring interoperability and compatibility:** Ensure that technological platforms are interoperable and compatible with various devices and operating systems, enabling users to access data from anywhere, at any time. * **Facilitating collaboration and data sharing:** Introduce features for collaborative data sharing, allowing users to collaborate on projects, share information, and work together on data analysis tasks. * **Providing robust documentation and metadata tools:** Furnish tools for comprehensive documentation and metadata description of datasets, enabling users to assess the relevance and reliability of data before utilization. |
| **Summary of the main training needs from the assessment survey for the policy area** | Discussions on open data within the organization highlighted several key points. There was a notable lack of uniform understanding across the organization regarding the importance and potential of open data, which could hinder effective utilization. Governance challenges, particularly in establishing clear roles and responsibilities for open data management, were identified as significant concerns. Participants emphasized the need for tailored solutions based on organization size and requirements, underlining the importance of flexibility. A practical approach was favored, with a call for real-world case studies and examples to demonstrate the tangible benefits of open data. While the IT department was acknowledged for its pivotal role in driving open data initiatives, cross-departmental collaboration was deemed essential for alignment with broader organizational goals.  In terms of data activities, establishing formal processes for inventorying and cataloging datasets, along with clear selection criteria, was deemed necessary. Standardizing terminology and adopting open formats and APIs were recognized as critical for accessibility and transparency. Participants also highlighted the importance of implementing tools such as database management systems and data cleaning software to streamline data collection and processing. Cross-departmental collaboration and regular audits and evaluations were proposed to ensure consistency, efficiency, and compliance with standards.  Regarding the utilization of open data in business processes, its potential across various sectors such as emergency services, tourism, urban planning, education, and healthcare was acknowledged. However, challenges in ensuring reliability and updating of open data were noted, emphasizing the need for formal processes. Concerns were raised about the lack of evaluation regarding the impact of data quality on public services, highlighting the necessity for a robust evaluation framework.  In terms of technology, discussions emphasized the need for tools facilitating data visualization and analysis over specific technological solutions. Proposed enhancement strategies included intuitive user interfaces, advanced search and filtering features, dynamic data visualization options, interoperability, collaboration features, and robust documentation tools. Overall, the discussions underscored the importance of open data, identified challenges, and proposed initiatives and technological considerations to improve its utilization within the organization. |
| **Lesson learnt and recommendations for the training activities** | |
| Based on the observations made regarding the utilization of open data and technology capabilities in Andalusia, it's evident that there's a need for targeted training initiatives to enhance the region's capacity in this area. Here are detailed proposals to address the identified needs effectively:  People and culture - Open Data   * **Executive training on Open Data advocacy:** Develop a training program targeted at senior executives to enhance their understanding of the strategic importance of open data and equip them with the knowledge and skills needed to advocate for its adoption within the organization. * **Governance training workshops:** Organize workshops focused on establishing effective governance structures for open data management, providing participants with practical guidance on defining roles, responsibilities, and accountability mechanisms. * **Tailored training modules:** Develop modular training materials that can be customized based on the size and specific requirements of different organizations. These modules should cover fundamental concepts as well as advanced topics relevant to each organization's context. * **Case study workshops:** Facilitate workshops where participants can explore real-world case studies and learn from successful open data initiatives implemented by organizations similar to theirs. These workshops should encourage interactive discussions and knowledge sharing among participants. * **Interdepartmental collaboration training:** Offer training sessions aimed at fostering collaboration between IT departments and other business units within the organization. These sessions should emphasize the importance of aligning open data initiatives with broader organizational objectives and facilitate cross-functional teamwork. * **Continuous learning resources:** Provide access to online resources, webinars, and communities of practice to support continuous learning and skill development in open data management. These resources should cater to professionals at all levels of expertise and offer opportunities for peer learning and knowledge exchange.   Data activities - Open Data   * **Inventory and cataloging workshops:** Organize workshops to train personnel on inventorying and cataloging information assets, providing guidance on selection criteria and best practices for data management. * **Standardization training sessions:** Offer training sessions focused on developing standardized terminologies and taxonomies, emphasizing the importance of clear communication and collaboration in open data initiatives. * **Format and API adoption workshops:** Conduct workshops to educate staff on the importance of open formats and APIs for data publication, providing hands-on training on their implementation and usage. * **Tools and technologies training:** Provide training on the use of tools and technologies for data collection and processing, offering practical exercises and demonstrations to enhance skills and proficiency. * **Collaboration Facilitation Sessions:** Facilitate sessions aimed at fostering collaboration and coordination between departments, encouraging knowledge sharing and alignment of objectives in open data activities. * **Audit and Evaluation Workshops:** Organize workshops on conducting audits and evaluations of open data processes, equipping participants with the knowledge and skills needed to assess data quality and identify areas for improvement.   Business processes - Open Data   * **Process establishment workshops:** Conduct workshops to educate personnel on establishing formal processes for inventorying, cataloging, and managing open data assets. Provide guidance on developing standardized terminologies, selecting open formats, and utilizing APIs for data publication. * **Resource management training:** Offer training sessions on resource management, focusing on strategies to overcome constraints such as limited personnel and budget. Highlight the importance of prioritizing data quality initiatives and advocating for dedicated resources. * **Evaluation framework development:** Organize sessions to develop an evaluation framework for assessing the impact of data quality on public services. Train participants on defining clear objectives, establishing relevant KPIs, and collecting both quantitative and qualitative data for evaluation purposes. * **Collaborative governance workshops:** Facilitate workshops to promote collaboration and coordination among different stakeholders involved in open data initiatives. Emphasize the importance of cross-departmental collaboration and community engagement in ensuring the reliability and updating of open data. * **Case study analysis sessions:** Conduct sessions to analyze case studies and best practices in utilizing open data to improve public services. Encourage participants to identify key success factors and lessons learned that can be applied in their own organizations.   Technologies - Open Data   * **Developing training Programs on emerging data analysis technologies:** Create training programs to familiarize users with emerging data analysis technologies such as artificial intelligence, machine learning, and predictive analytics. This enables users to harness the full potential of advanced approaches in open data exploitation. * **Promoting technological autonomy: P**romote autonomy and technological independence by providing training on the development and implementation of proprietary data analysis tools. This diminishes reliance on external vendors and enhances internal capacity for innovation and continuous improvement in open data exploitation. | |
| **Follow-up meeting** | Stakeholders’ meeting n3 |
| **Resources** | <https://miro.com/app/board/uXjVNw0H9gw=/> |
| **Other personal remarks** | - |